



|                      |                                              |                   |    |
|----------------------|----------------------------------------------|-------------------|----|
|                      | <b>PROSJEKTDOKUMENTASJON<br/>LED VMS RGB</b> |                   |    |
| <b>Dokument nr.:</b> | E39 Håklepptunnelen                          |                   |    |
| <b>Prosjekt:</b>     | 100833                                       |                   |    |
| <b>Prosjekt nr.:</b> | Ordre nr.: 775263                            |                   |    |
| <b>Kunde:</b>        | Mesta AS                                     | <b>Versjon:</b>   | A  |
| <b>Byggherre:</b>    | -                                            | <b>Ant sider:</b> | 12 |

|            |             |                       |                   |                    |
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|            |             |                       |                   |                    |
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|            |             |                       |                   |                    |
|            |             |                       |                   |                    |
| 02         | 15.10.2019  | Endring s 1, 2, 5 - 8 | ALH               | TAD                |
| 01         | 04.10.2018  | Første utgave         | ALH               | TAD                |
| <b>Rev</b> | <b>Dato</b> | <b>Beskrivelse</b>    | <b>Skrevet av</b> | <b>Godkjent av</b> |

|                 |                          |       |
|-----------------|--------------------------|-------|
| 1 Godkjent      | <input type="checkbox"/> | Sign. |
| 2 Ikke godkjent | <input type="checkbox"/> | Sign. |
| Kommentarer:    |                          |       |

|                  |                     |                    |        |              |            |             |    |
|------------------|---------------------|--------------------|--------|--------------|------------|-------------|----|
| <b>Prosjekt:</b> | E39 Håklepptunnelen | <b>Prosjektnr.</b> | 100833 | <b>Dato:</b> | 15.10.2019 | <b>Rev.</b> | 02 |
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# 1 OM LED VMS RGB SKILT

LED VMS RGB modulskilt er utviklet spesielt for krevende norske forhold. Skiltet er bygd opp av moduler som er IP66 godkjent. ITS kontroller er plassert i koblingsskap bak på skilt.

## TEKNISKE SPESIFIKASJONER

### LED, elektronikk

Spredningsvinkel: B1, B2, B3, B4, B5 (EN12966)

Strømtrekket over diodene er lavere enn 60% av diodenes maksimale strømtrekk.

**Diodetype:** Epistar

**Strømforsyning:** 230Vac / 24VDC

**Godkjenning:** Godkjent i henhold til EN 12966-1:2005 + A1:2009

C2L3R2B4/T1, T2, T3/P3,  
C2L3(\*) R2B4/T1, T2, T3/P3,  
C2L3(T)R0B4/T1, T2, T3/P3

Sert. nr. 0402-CPD-SC0543-13

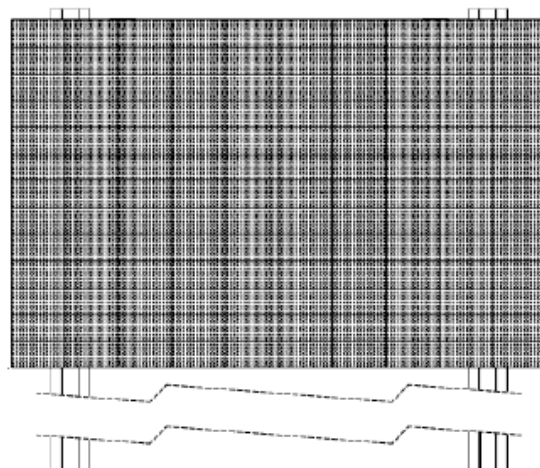
Snøbrøytelast i henhold til EN12899:2007 DSL4

Vindlast i henhold til N12899:2007 WL3

**Tilkobling:** Skruterminal på hurtigplugg eller rekkeklemme i koblingsboks.

**Materiale og overflatebehandling:** Front ramme: pulverlakkert sjøvannsbestandig aluminium.  
Skiltkasse: pulverlakkert sjøvannsbestandig aluminium.  
Skruer og festemateriell er i syrefast stål (A4-80).

**Lagring og frakt:** Under frakt og lagring må skiltet stå oppreist i normalposisjon for drenering og lufting.



|           |                     |             |        |       |            |      |    |
|-----------|---------------------|-------------|--------|-------|------------|------|----|
| Prosjekt: | E39 Håklepptunnelen | Prosjektnr. | 100833 | Dato: | 15.10.2019 | Rev. | 02 |
|-----------|---------------------|-------------|--------|-------|------------|------|----|

## 2 Godkjenninger

**Nemko** **Statement of Conformity**  
**Ingress Protection (IP)**  
Order No.: 343584

Applicant: Euroskilt AS  
Reservatveien 8  
3118 Tønsberg  
Norway

Manufacturer: Euroskilt AS and Tønsberg  
Reservatveien 8  
3118 Tønsberg  
Norway

Product: LED VMS cabinet

Models: LED VMS cabinet

Brand Name / Trade mark:

Additional information: Metal enclosure made of aluminum profile system, dimension 900x900x150mm (height). Hinged door with three rubber seals in profile and two locking devices prepared for padlocks.

IP classification: IP56 category 2

The above product is tested according to the following standards: EN 60529 (1991) + A1 (2000)  
Degree of protection provided by enclosures (IP Code)  
EN 12966 (2014), IPXX category 2  
Road vertical signs Variable message traffic signs

**IP56**  
Cat. 2

Nemko confirms that one sample of the mentioned product has been tested and found to be in conformity with the requirements for the degree of protection as specified above.

This statement gives no right to use Nemko's name or certification mark on the products.

Date 2017-12-12

Tested by: Finn-Tore Jørgensen

Approved by: Espen Eriksen

Nemko Group  
Nemko AS, Gustavsløkken 30, P.O. Box 73 Blindern, 0314 Oslo, Norway  
Tel: +47 22 96 03 30 Fax: +47 22 96 05 50 Email: info@nemko.com  
Enterprise number NO74404532

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**Nemko** **Statement of Conformity**  
**Ingress Protection (IP)**  
Order No.: 343584

Applicant: Euroskilt AS  
Reservatveien 8  
3118 Tønsberg  
Norway

Manufacturer: Euroskilt AS  
Reservatveien 8  
3118 Tønsberg  
Norway

Product: LED VMS module

Models: LED VMS module

Brand Name / Trade mark:

Additional information: Insulating enclosure with LED lenses in front. Backside cover with dust rubber seal and electrical connection for power input and signal input.

IP classification: IP66

The above product is tested according to the following standards: EN 60529 (1991) + A1 (2000)  
Degree of protection provided by enclosures (IP Code)

**IP66**

Nemko confirms that one sample of the mentioned product has been tested and found to be in conformity with the requirements for the degree of protection as specified above.

This statement gives no right to use Nemko's name or certification mark on the products.

Date 2017-12-12

Tested by: Finn-Tore Jørgensen

Approved by: Espen Eriksen

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Tel: +47 22 96 03 30 Fax: +47 22 96 05 50 Email: info@nemko.com  
Enterprise number NO74404532

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**Nemko** **Test Report**  
**Electromagnetic Compatibility**  
Report No.: E17198.00

|                                            |                                                                                                                                                                                                                                 |
|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product                                    | Euroskilt Traffic Variable Message Sign, LED RGB                                                                                                                                                                                |
| Name and address of the applicant          | Euroskilt AS<br>Reservatveien 8<br>3118 Tønsberg<br>Norway                                                                                                                                                                      |
| Name and address of the manufacturer       | Euroskilt AS<br>Reservatveien 8<br>3118 Tønsberg<br>Norway                                                                                                                                                                      |
| Model                                      | P20 and P16                                                                                                                                                                                                                     |
| Rating                                     | 230V AC 50Hz                                                                                                                                                                                                                    |
| Trademark                                  | -                                                                                                                                                                                                                               |
| Serial number                              | -                                                                                                                                                                                                                               |
| Additional information                     | CI 1                                                                                                                                                                                                                            |
| Tested according to                        | EN 50293:2012<br>EN 61000-3-2:2014<br>EN 61000-3-3:2013                                                                                                                                                                         |
| Order number                               | 335624                                                                                                                                                                                                                          |
| Tested in period                           | 2017-08-24 and 2017-08-25                                                                                                                                                                                                       |
| Issue date                                 | 2017-11-13                                                                                                                                                                                                                      |
| Name and address of the testing laboratory | Nemko Group<br>Nemko AS, Gustavsløkken 30,<br>P.O. Box 73 Blindern,<br>0314 Oslo, Norway<br>TEL: +47 22 96 03 30<br>FAX: +47 22 96 05 50<br><br>An accredited technical staff enrolled under the Norwegian accreditation scheme |
| Prepared by                                | <br>Prepared by [Anh Dung Lam]                                                                                                                                                                                                  |
| Approved by                                | <br>Approved by [Roger Berget]                                                                                                                                                                                                  |

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**ISTITUTO GIORDANO**  
**CE** NOTIFIED BODY No. 0407  
**CERTIFICATE OF CONSTANCY OF PERFORMANCE**  
**0407-CPR-1350 (IG-228-2017)**

In compliance with Regulation 305/2011/EU of the European Parliament and of the Council of 9 March 2011 (the Construction Products Regulation or CPR), this certificate applies to the construction products

**VARIABLE MESSAGE TRAFFIC SIGNS**  
Identified as shown overleaf (Annex)  
placed on the market by

**YAHAM OPTOELECTRONICS CO., LTD.**  
Bldg A & Bldg D, Yongwei Industrial Park, #118 Yongfu Rd, Fuyong, Bao'an District, Shenzhen, China (PRC)  
and produced in the manufacturing plant  
Bldg A & Bldg D, Yongwei Industrial Park, #118 Yongfu Rd, Fuyong, Bao'an District, Shenzhen, China (PRC)

This certificate attests that all provisions concerning the assessment and verification of constancy of performance at system level and the performances described in Annex ZA of the standard

**EN 12966-1:2005 + A1:2009**  
are applied and that

**the products fulfil all the prescribed requirements.**

This certificate was first issued on 30/10/2017 and will remain valid as long as the harmonised standard remains valid or the manufacturing conditions in the plant or the factory production control itself are not modified significantly.  
Bellaria-Igea Marina - Italia, 30/10/2017  
Revision No. 0

CPD Department Technical Manager  
(Dott. Ing. Giuseppe Persano Adorno)

Chief Executive Officer  
(Dott. Arch. Sara Lorenza Giordano)  
  
Firma autografa su DATA LORENZA GIORDANO

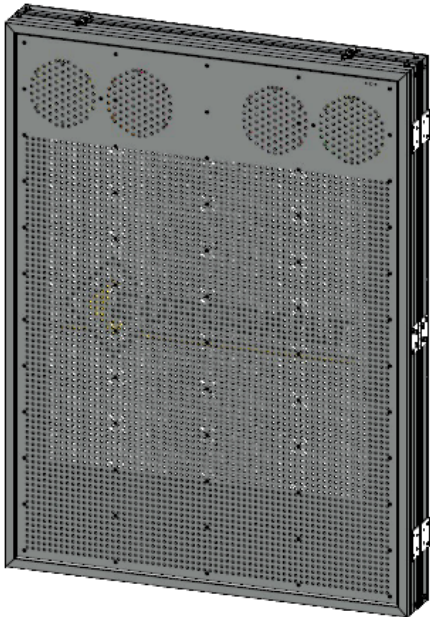
The original of this document consists of an electronic document with a digital signature (valid pursuant to D.M. (Presidential Decree) 133/07)

ISTITUTO GIORDANO S.p.A. - Via Gioacchino Rossini, 2 - 47814 Bellaria-Igea Marina (RN) - Italia  
www.giordano.it - info@giordano.it - PEC: ist-giordano@legalmail.it - tel. +39/0541/343030

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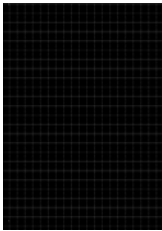
## 3 SKILT

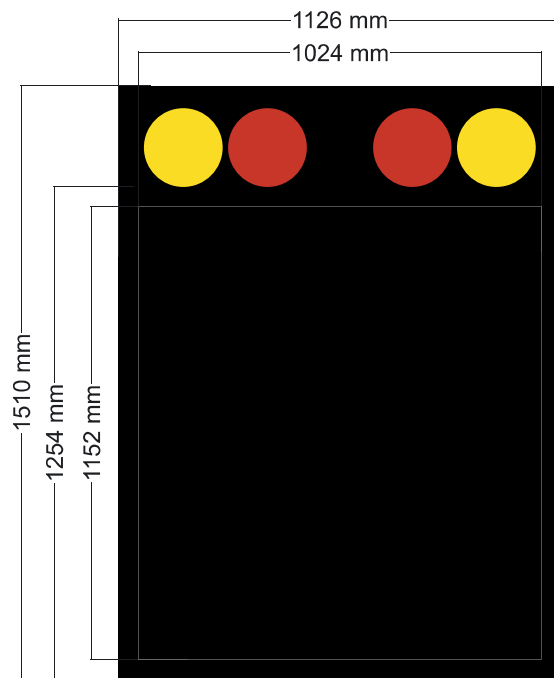
### 3.1 Variabel opplysningstavle m/kasse

|                          |                                               |                                                                                     |
|--------------------------|-----------------------------------------------|-------------------------------------------------------------------------------------|
| Skiltbilde:              | Variabel opplysningstavle<br>montert på plate |  |
| Produkt nr.:             | 160 160 260 12                                |                                                                                     |
| Type:                    | LED VMS RGB, kasseløsning                     |                                                                                     |
| Mål skiltansikt (mm):    | 1024 x 1152                                   |                                                                                     |
| Mekanisk størrelse (mm): | 1126 x 1510                                   |                                                                                     |
| Fargekode:               | RAL 9005 glans 3 - 10                         |                                                                                     |
| Antall:                  | Se ordrebekreftelse                           |                                                                                     |
| Styring:                 | I/O                                           |                                                                                     |
| Styrekort:               |                                               |                                                                                     |
| Styreprotokoll:          |                                               |                                                                                     |
| Feste:                   | NM-mastfeste/VD-klammer                       |                                                                                     |
| Kabelgjennomføring:      | M32, M20                                      |                                                                                     |
| Driftsspenning:          | 230VAC                                        |                                                                                     |
| Effekt maks:             |                                               |                                                                                     |
| Effekt nominell:         |                                               |                                                                                     |
| Diodeavstand:            | P16                                           |                                                                                     |
| Vekt:                    | 150 kg                                        |                                                                                     |
| El. tegninger:           | TBA                                           |                                                                                     |

|                  |                     |                    |        |              |            |             |    |
|------------------|---------------------|--------------------|--------|--------------|------------|-------------|----|
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Skiltbilder:

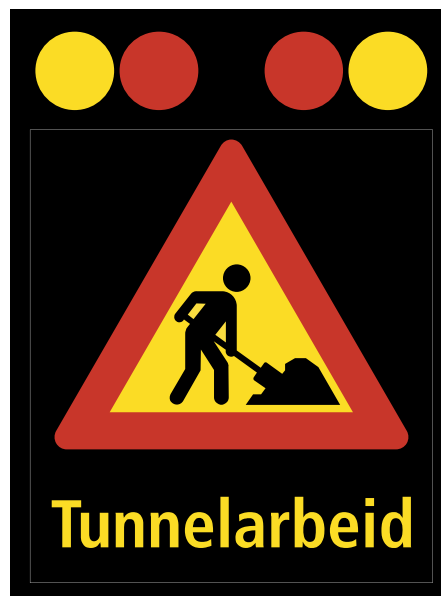
|                                                                                   |                                                                                   |                                                                                    |                                                                                     |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |
| Pos 1                                                                             | Pos 2                                                                             | Pos 3                                                                              | Pos 4                                                                               |
|  |                                                                                   |                                                                                    |                                                                                     |
| Pos 5                                                                             |                                                                                   |                                                                                    |                                                                                     |



LS Trekant  
TH 110



LS Trekant  
TH 120



LS Trekant  
TH 120



TH 140

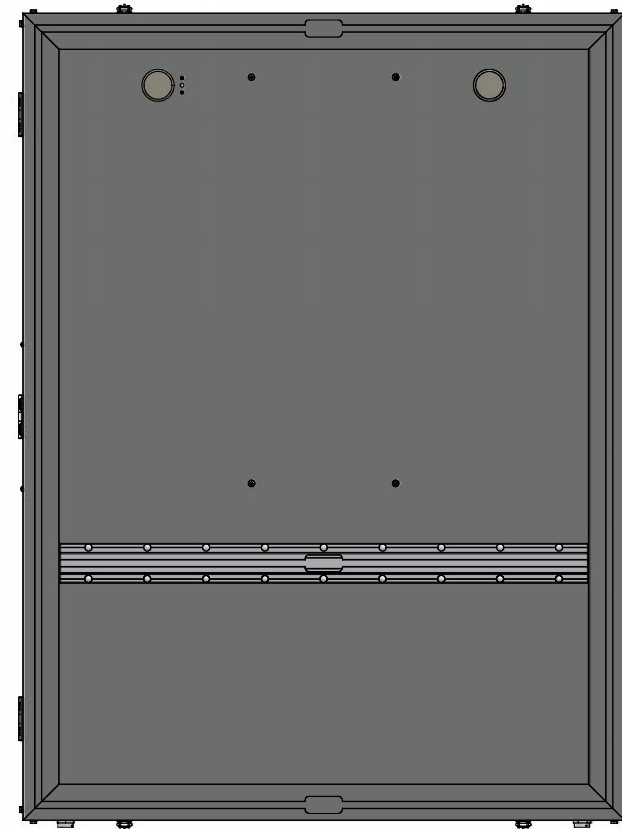
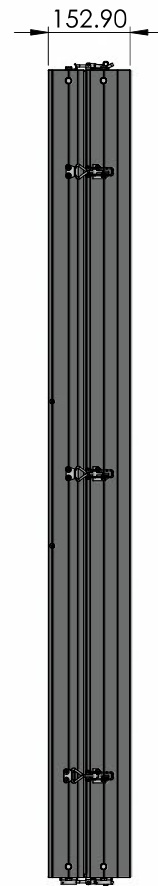
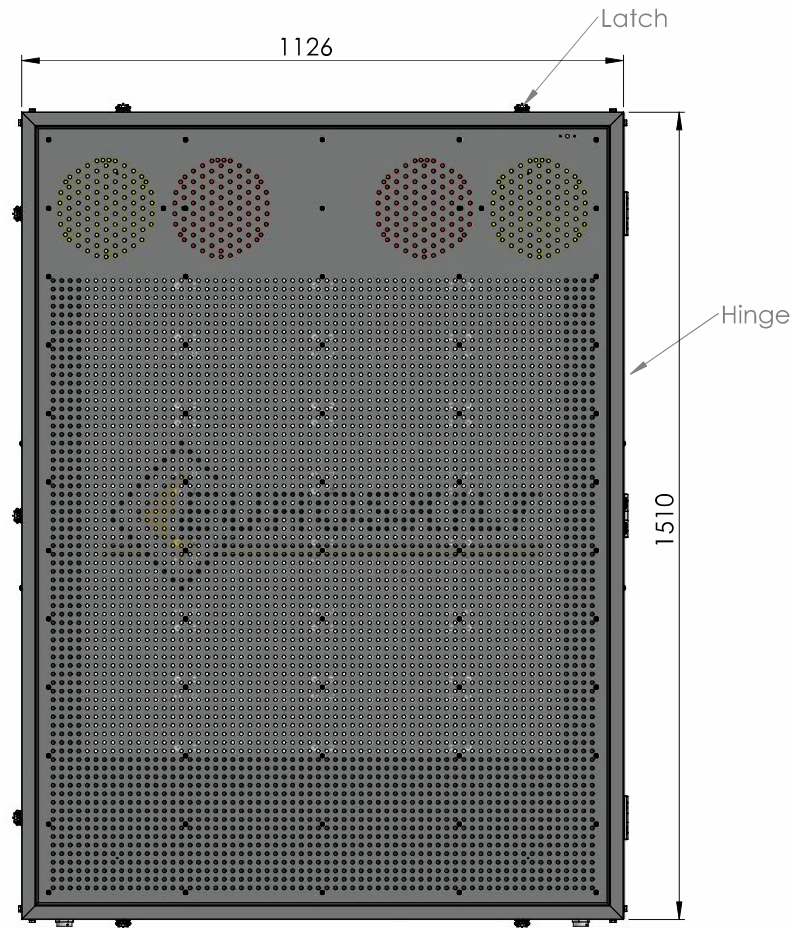
TH 140

TH 105

TH 140

Geometry from 3D CAD-model is leading unless otherwise stated on the 2D drawing or in the additional specifications document

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| Change date | Changed by | Approval date | Approved by | Description of change | Revision |
|-------------|------------|---------------|-------------|-----------------------|----------|
|             |            |               |             |                       |          |
|             |            |               |             |                       |          |
|             |            |               |             |                       |          |

|                                                                 |                 |                             |                    |                                      |                                                                                                     |                          |                         |                                                                                       |
|-----------------------------------------------------------------|-----------------|-----------------------------|--------------------|--------------------------------------|-----------------------------------------------------------------------------------------------------|--------------------------|-------------------------|---------------------------------------------------------------------------------------|
| Drawn date<br>10.10.19                                          | Drawn by<br>CBO | Approval date<br>15.10.2019 | Approved by<br>ETH | General Tolerance<br>NS-ISO 2768-1-m | Projection<br> | Sheet<br>2 of 2          | Scale<br>1:10           |  |
| Material                                                        |                 |                             | Surface treatment  |                                      | Weight<br>NAkg                                                                                      | Prod. Groupe<br>073      | Format<br>A3            |                                                                                       |
| Title<br>Roadwork, RGB 4x9 with integrated blink lamp, assembly |                 |                             |                    |                                      | Status<br><b>APPROVED</b>                                                                           | Drawing no.<br>100000721 |                         | Revision<br>0                                                                         |
| Additional description<br>Pixels: 64x72, Size: 1126x1510        |                 |                             |                    |                                      | Article no.                                                                                         |                          | Project no.<br>Standard | Document Type<br>Assembly                                                             |

|                  |                     |                    |        |              |            |             |    |
|------------------|---------------------|--------------------|--------|--------------|------------|-------------|----|
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## 4 MERKING

| Nr. | Serienummer | Tag | Beskrivelse                   |
|-----|-------------|-----|-------------------------------|
| 1   |             |     | RGB variabel opplysningstavle |
| 2   |             |     | RGB variabel opplysningstavle |

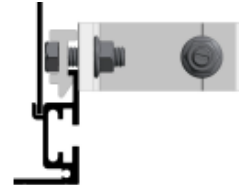
|           |                     |             |        |       |            |      |    |
|-----------|---------------------|-------------|--------|-------|------------|------|----|
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## 5 MONTERING

### 5.1 Montering på Norsafe mast

Fester med glideskinne for montering på Norsafe mast:

Varenr: 22330030015 NM150 Skiltfeste m/60mm glideskinne



Figur 5-1: Glideskinne



|                  |                     |                    |        |              |            |             |    |
|------------------|---------------------|--------------------|--------|--------------|------------|-------------|----|
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## 6 SERVICE

### 6.1 Service/Vedlikehold

Vennligst se «Vaskerutiner RGB» for detaljer.

For å holde frontplater rene må produktene inspiseres årlig og rengjøres for smuss.  
For å unngå vanninntrenging med påfølgende kondensoppbygging og skader på elektronikk må det utføres kontroll av pakninger jevnlig.

Produktene tåler Statens Vegvesens normale vaskeprosedyrer. Det anbefales ikke å vaske skiltene fra undersiden/i underkant.

**NB! Ved vedlikehold og bytte av enhet må enheten være strømløs og spenningsprøving må være foretatt.**

Ved behov for service:

Euroskilt AS  
Reservatveien 8  
3118 Tønsberg



**service@euroskilt.no**

**0 60 80**

|                  |                     |                    |        |              |            |             |    |
|------------------|---------------------|--------------------|--------|--------------|------------|-------------|----|
| <b>Prosjekt:</b> | E39 Håklepptunnelen | <b>Prosjektnr.</b> | 100833 | <b>Dato:</b> | 15.10.2019 | <b>Rev.</b> | 02 |
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## 7 VEDLEGG

| <b>Vedlegg nr.</b> | <b>Beskrivelse</b>     | <b>Rev.</b> |
|--------------------|------------------------|-------------|
| 1                  | Tegninger / skjematikk |             |
| 2                  | Vaskerutiner RGB       | 1           |